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BiofuelsUPDATE

Report on U.S. Department of Energy Biofuels Technology

Governors' Ethanol Coalition Provides Bipartisan Support for Renewable Fuel

In 1991, Governor E. Benjamin Nelson (D-NE) joined forces with governors from nine other states to form the Governors' Ethanol Coalition (GEC). United by the mission to increase the use of ethanol-based transportation fuels, the organization's membership grew to 19 states within the first year.

The GEC has succeeded in its mission by coordinating its member states' activities in research, education, demonstration, and market development.

Last September the coalition led a trade mission to Brazil to explore the market for U.S. ethanol. Most of Brazil's vehicle fleet runs on 22% ethanol, and most fuel stations sell 95% ethanol blends. "Brazil is one of the world's largest importers of ethanol," said Nelson. "We want to explore ways to increase America's ethanol exports, as well as options to increase ethanol use as a transportation fuel." *(See more on this in the next issue.)*

Active participation in promotional events also helps the GEC inform public and private decision makers. This year the GEC participated in the annual 4th of July parade in Washington, D.C., to promote U.S. energy independence and ethanol fuels.

GEC members participate individually and in committees. They meet at least quarterly while several projects proceed in four committees: economics, environment, policy, and research. Consensus drives decision making, and chairmanship alternates between political parties. This year Governor Tommy Thompson (R-WI) heads the coalition, and next year Governor Mel Carnahan (D-MO) will take the helm. Permanent administrative offices are based in Lincoln, Nebraska.

To maintain neutrality, the GEC accepts funding from non-industry sources only. Projects are funded primarily by the U.S. Departments of Energy and Agriculture. ❑

Creating a larger and more diversified ethanol industry is the focus of many government and industry agencies and grassroots groups across the nation. In this issue, we highlight how some of these groups are working with the U.S. Department of Energy and the National Renewable Energy Laboratory to help transfer new technology research results into the marketplace.

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Illinois	217-785-2800
Indiana	317-232-8939
Iowa	515-281-4308
Kansas	913-296-3558
Kentucky	502-564-7192
Michigan	517-373-1052
Minnesota	612-297-2223
Missouri	314-751-4000
Montana	406-444-6699
Nebraska	402-471-2867
New Mexico	505-821-3181
North Dakota	701-777-5000
Ohio	614-466-2732
South Dakota	605-773-5032
Texas	512-463-2198
Wisconsin	608-267-7693

Institute Advances Ethanol Research

A new network that unites federal, state, and private resources has been formed to support ethanol research.

The idea of the National Ethanol Institute was formed several years ago by the Governors' Ethanol Coalition (GEC), when the group needed data on ethyl tertiary butyl ether's evaporative emissions. The GEC initially hired scientists to provide the data, but the environmental community dismissed the reports as invalid because they were funded by ethanol industry supporters, according to Robert

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Groups Link the Midwest with Ethanol Fueling Sites

Thanks to the efforts of the National Ethanol Vehicle Coalition (NEVC), ethanol vehicle owners in the Midwest may soon be able to take full advantage of their vehicles' capability by filling up with 85% ethanol at conveniently located fueling sites.

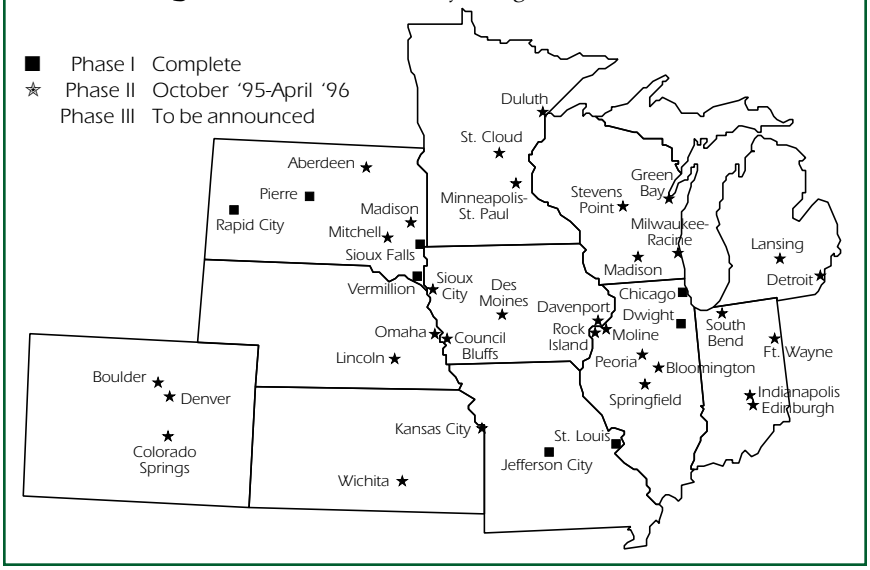
Created last year by the National Corn Growers Association (NCGA) and the Governors' Ethanol Coalition (GEC), the NEVC's goal is to add 40 public ethanol fueling sites throughout the Midwest by 1996. That will more than double the current 33 fueling sites, of which few are public. The project will focus initially on 11 states: Missouri, Iowa, Nebraska, Minnesota, Wisconsin, Michigan, Indiana, Illinois, Ohio, Kentucky, and Colorado.

Funding for the ethanol infrastructure project will come from the NCGA, GEC, and the State of Nebraska, which received $250,000 on behalf of the GEC as part of the U.S. Department of Energy's (DOE) state and local incentives program. The Urban Consortium also contributed to the effort by granting the NEVC $75,000 to expand the fuel network.

The task involves more than making ethanol available to the public, according to Lampert. It must also be convenient. "It's like what they say about real estate," he said. "Location, location, location."

Lampert has been working closely with the General Service Administration, which has already placed 250 ethanol federal fleet vehicles in the St. Louis and Chicago areas. An additional 1,250 should be delivered during the 1996 model year. "The GSA said it got burned with M85 [when promised methanol fueling sites were not completed, forcing the vehicles to run on gasoline], but promised to purchase a few hundred E85 vehicles if infrastructure commitments were kept," Lampert said.

Figure 1 *Public E-85 Refueling Sites*



Lampert found several gasoline retailers in the region who are interested in adding ethanol pumps.

Upgrading an existing fuel site costs about $20,000, according to Lampert. This does not include the estimated $5,000–$10,000 in labor costs to be paid by the retailer. (Retailers will acquire rights to the equipment after carrying the fuel for 2 years.)

In building the sites, GEC and NCGA are following standards developed by the American Automobile Manufacturers Association (AAMA) and the California Energy Commission for 85% methanol fuel. "We think it's prudent because in the future there may be an alcohol-transparent vehicle that can use either methanol or ethanol," Lampert said.

In St. Louis and Chicago, underground tanks are being reconditioned to hold ethanol. They are sandblasted, then sprayed with an inner liner to ensure they can handle alcohol fuel. Because aluminum reacts negatively with high-alcohol fuel, pipes that are either stainless steel or nickel plated are also installed.

Updated fueling site information can be found in the DOE National Renewable Energy Laboratory's Alternative Fuels Data Center, which is accessible by modem or on the internet. By modem, dial 1-800-588-2336. The internet address is http://www.afdc.doe.gov. For a password and ID, call 303-275-4545.

For more information contact: NEVC, Phil Lampert, 1648 Highway 179, Jefferson City, MO, 65109, 314-635-8445, or call the E85 hotline at 1-800-E85-8895. ❑

Grassroots Groups Keep Congress Informed

Some groups are doing their part at the grassroots level to put more ethanol into the marketplace. Women in Farm Economics (WIFE), and Ethanol Producers and Consumers (EPAC) are two such groups who are educating Congress and the public about the benefits of ethanol use.

WIFE was formed in 1976 by a group of women who decided to influence the legislation that affected their livelihood, according to Wanda Zuroff, president of WIFE. Since its kickoff, WIFE has expanded to include members from 25 states who pay close attention to local, state, and national issues. Throughout their years of involvement, members have learned a lot about lobbying and promotion. "We've found that if you want to talk to someone and you have a food product to give them, they listen a lot better," Zuroff said.

WIFE distributes food made from ethanol coproducts—one more reason ethanol is good news for American farmers. Ethanol production uses the starch of corn, leaving a high-protein grain coproduct called distiller dry grains. "If it's done correctly, you're not taking away from food [to make ethanol] but providing something better," Zuroff said.

Some WIFE members recognized the need for a broader base to promote ethanol and started EPAC 4 years ago. EPAC brings together those involved in all phases of ethanol production and marketing, according to Shirley Ball, president of the Montana-based organization. Members include businesses, government, and individuals interested in ethanol.

Shirley Ball fuels up EPAC's E85 Ford Taurus.

EPAC sponsors the annual Montana Ethanol Conference, hosts regular state legislative breakfasts to provide ethanol updates, releases a quarterly newsletter, and is developing a teachers' guide. With funding

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Ethanol Institute *(continued from page 1)*

Harris, a GEC representative from Nebraska.

This year the GEC made the Ethanol Institute a reality and enlisted the Consortium for Plant Biotechnology Research (CPBR) to administer it. Formed in 1985, the Consortium comprises a network of scientists who conduct energy- and agriculture-related research. It includes 25 universities and more than 30 energy-related companies, and membership is still growing.

The U.S. Department of Energy, through the National Renewable Energy Laboratory (NREL), has provided $250,000 to the Ethanol Institute. These funds will be matched by the institutions or companies that perform ethanol research through the program. This cost-share arrangement means that every federal dollar spent in the program will yield $2.15 in research, according to Dorin Schumacher, president of CPBR.

The program "is a unique and historic partnership that will provide high-quality, basic research that has practical applications," Schumacher said.

The Ethanol Institute's advisory board will design a research agenda based on input from all sources and solicit research pre-proposals from universities. The first research projects could be chosen by the end of the year. Possible topics are health effects, environmental impacts, and economic analysis of ethanol, according to Schumacher.

"We believe that efforts such as this institute can advance the movement of innovative biofuels into the marketplace," said Charles Wyman, Director of NREL's Alternative Fuels Division.

The Consortium is now selecting an advisory board that will include representatives of NREL, GEC, academia, and the ethanol industry. A list of 12 proposed names will be ratified at the upcoming GEC meeting this Fall.

For more information, contact CPBR, 1220 Porter Drive, Suite 130-D, West Lafayette, IN 47906, 317-463-4000. ❑

Grassroots

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from the U.S. Department of Energy's regional office in Seattle, EPAC members drive their E85 car to promote ethanol at numerous local, state, and national functions.

The group has asked that President Clinton and Secretary of Agriculture Glickman issue orders to require the purchase of E10 fuel for government fleet vehicles whenever the fuel is priced the same, or lower than, unleaded gasoline. The price comparisons should include octane level, according to EPAC.

For more information, contact: Women in Farm Economics, Box 123, Richey, MT, 59259, 406-773-5825.

Ethanol Producers and Consumers South Route, Box 206, Nashua, MT, 59248, 406-785-3722. ❑

Biofuels News Bites

- The breakthrough by the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) for engineering *Zymomonas mobilis*, a bacterium that co-ferments five- and six-carbon sugars (see Winter 1995 *Biofuels Update,* p. 4), recently received the R&D-100 award. *R&D Magazine* gives this award to the 100 most noteworthy inventions in the United States. This is the second R&D 100 award given to inventions resulting from NREL's ethanol project.
- The U.S. Court of Appeals for the District of Columbia has denied a request by the Justice Department for the full court to rehear the Renewable Oxygenate Standard (see 1995 Winter *Biofuels Update*).
- The Nebraska Energy Office recently initiated a proposal called "Fuel for the Heartland" which calls for a uniform standard of a minimum 2.7% oxygen content for all gasoline sold in 15 Midwestern states by the year 2000. The proposal was funded by the Western Regional Biomass Program and has been endorsed by several groups, including the Governors' Ethanol Coalition.
- This Summer the Canadian government passed legislation that mandates its fleet to acquire alternative fuel vehicles. According to the new law, half the government's 39,000-vehicle fleet will run on alternative fuels by 1997, and 75% by 2004. Alternative fuels include ethanol, methanol, natural gas, propane, hydrogen, and electricity.

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